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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/785,995	HARA ET AL.
	Examiner	Art Unit	
	DENNIS MYINT	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>07/07/2008</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>35-46</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>35-46</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

1.   This communication is responsive to Applicant's Amendment, filed on July 7,

2008.

2.   The amendment filed on July 7, 2008, has been received and entered. Claims

35-46 are pending in this application. Claims 35, 38, and 42 are independent claims. In

the amendment filed on July 7, 2008, claims 35-42 and 46 were amended. **This office**

action is made final.

Specification

3.   The specification is objected to as failing to provide proper antecedent basis for

the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction

of the followings is required.

Claim 36 in lines 1-3 recites "wherein the one control processor **migrates** the first

data to the other node **if there is no request** for the first data from the client computer

via the second interface ", which is not recited in the specification of the application.

Thus, the specification fails to provide proper antecedent basis for said limitation.

Claim 37 in lines 1-3 recites "wherein the one control processor **copies** the

related data to the other node **if there is no request** for the related data from the client

computer via the second interface ", which is not recited in the specification of the

application. Thus, the specification fails to provide proper antecedent basis for said

limitation.

Claim 38 in lines 24-25 recites "determine if the received second request is received from a data location in the second storage device or the first storage device". According to the specification (Paragraph 0053 of the application, U.S. Patent Application Publication Number 2005/0125456), "requests" are sent out by a "user" using a "client computer" by way of a "control node" - not "from a data location in the in the second storage device or the first storage device" as recited in lines 24-25 of claim 38. Therefore, the specification fails to provide proper antecedent basis for said limitation "determine if the received second request is received from a data location in the second storage device or the first storage device".

Additionally, claim 38 in lines 24-25 recites "store to the second storage device if the data related to the second request is received from the first control node" which is not recited in the specification of the application. Thus, the specification fails to provide proper antecedent basis for said limitation.

Claim 39 in lines 1-3 recites "wherein the first control node **migrates** the data related to the extracted log entries of the first requests to the second control node **if there is no request** related to the related data from the first client computer", which is not recited in the specification of the application. Thus, the specification fails to provide proper antecedent basis for said limitation.

Claim 40 in lines 1-3 recites "wherein the first control node **copies** the data related to the extracted log entries of the first requests to the second control node **if there is no request** related to the related data from the first client computer", which is not recited in the specification of the application. Thus, the specification fails to provide

proper antecedent basis for said limitation.

Claim 41 in lines 1-3 recites "wherein the first control node **converts** a source of

the first request from the first client computer to the Second control node when the

received request is related to the second control node, which is not recited in the

specification of the application. Thus, the specification fails to provide proper antecedent

basis for said limitation.

Claim 43 in lines 1-3 recites "wherein the control device migrates the related data

to the other storage system **if there is no request** for the related data from the client

computer", which is not recited in the specification of the application. Thus, the

specification fails to provide proper antecedent basis for said limitation.

Claim 44 in lines 1-3 recites "wherein the control device copies the related data

to the other storage system **if there is no request** for the related data from the client

computer", which is not recited in the specification of the application. Thus, the

specification fails to provide proper antecedent basis for said limitation.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and
> process of making and using it, in such full, clear, concise, and exact terms as to enable any
> person skilled in the art to which it pertains, or with which it is most nearly connected, to make
> and use the same and shall set forth the best mode contemplated by the inventor of carrying out
> his invention.

The analysis under 35 U.S.C. 112, first paragraph, requires that the scope of

protection sought be supported by the specification disclosure. The pertinent inquiries include determining (1) whether the specification disclosure as a whole is to enable one skilled in the art to make and use the claimed invention.

5.   Claims 36, 37, 38-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 36 in lines 1-3 recites "wherein the one control processor **migrates** the first data to the other node **if there is no request** for the first data from the client computer via the second interface ", which is not recited in the specification of the application. Thus, the specification fails to provide proper antecedent basis for said limitation. As such claim 36 contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 37 in lines 1-3 recites "wherein the one control processor **copies** the related data to the other node **if there is no request** for the related data from the client computer via the second interface ", which is not recited in the specification of the application. Thus, the specification fails to provide proper antecedent basis for said limitation. Claim 37 contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the

inventor(s), at the time the application was filed, had possession of the claimed

invention.

Claim 38 in lines 18-21 recites "the second control node is coupled to the second

storage device and configured to:

"receive a second request from the second client computer in the second

network system";

"**determine if** the received second request is received from a data location in the

second storage device or the first storage device".

However, the second request is received from the second client computer in the

second network ("receive a second request from the second client computer in the

second network) and, because the second client computer, a second control node and

a second storage device exist together in a second network (i.e., lines 4-5 of claim 38,

i.e., "a plurality of second network systems including a second client computer, and a

second control node, and a second storage device"), the second request can originate

only from the second client computer/second control node. As such, determining if the

received second request is received from a data location in the second storage device

or the first storage device is (1) unnecessary and (2) is **"mutually exclusive"** to the

prior limitation, that is," receive a second request from the second client computer in the

second network system".

The Examiner interprets said limitations a broad sense to mean "receiving a

second request and determining if the received second request is received from a first

client computer/first control node or a second client computer/second control node".

Claims 39-41 are rejected on the same basis for fully incorporating the deficiencies of their respective base claim 38 by dependency.

Claim 39 in lines 1-3 recites "wherein the first control node **migrates** the data related to the extracted log entries of the first requests to the second control node **if there is no request** related to the related data from the first client computer", which is not recited in the specification of the application. Thus, the specification fails to provide proper antecedent basis for said limitation. As such claim 39 contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 40 in lines 1-3 recites "wherein the first control node **copies** the data related to the extracted log entries of the first requests to the second control node **if there is no request** related to the related data from the first client computer", which is not recited in the specification of the application. Thus, the specification fails to provide proper antecedent basis for said limitation. As such claim 40 contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 41 in lines 1-3 recites "wherein the first control node **converts** a source of the first request from the first client computer to the Second control node when the received request is related to the second control node, which is not recited in the specification of the application. Thus, the specification fails to provide proper antecedent

basis for said limitation. As such claim 41 contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 43 in lines 1-3 recites "wherein the control device migrates the related data to the other storage system **if there is no request** for the related data from the client computer", which is not recited in the specification of the application. Thus, the specification fails to provide proper antecedent basis for said limitation. As such claim 43 contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 44 in lines 1-3 recites "wherein the control device copies the related data to the other storage system **if there is no request** for the related data from the client computer", which is not recited in the specification of the application. Thus, the specification fails to provide proper antecedent basis for said limitation. As such claim 44 contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7.   Claim 35-37, and 38-41 rejected under 35 U.S.C. 112, second paragraph,

rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to

particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

Claim 35 in line 17 recites "**the accessor** of the first data". However, There is

insufficient antecedent basis for this limitation in the claim. As such, claim 35 is rejected

under 35 U.S.C. 112 second paragraph as being indefinite for failing to particularly point

out and distinctly claim the subject matter which applicant regards as the invention.

Claim 35 in lines 21-22 recites "the one control processor is further configured to

send second data accessed by the user before the accessor is changed to the other

control node". However, it is not ascertainable whether "the use" who accessed the

second data and "the accessor" who is changed to the other control node" are the same

entity or different entities. As such, said limitation of claim 35 renders the claim

indefinite. As such, claim 35 is rejected under 35 U.S.C. 112 second paragraph as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

Claims 36-37 are also rejected under 35 U.S.C. 112 second paragraph by virtue

of their dependency on claim 35.

Claim 38 in lines 24-25 recites "store to the second storage device if the data

related to the second request is received from the first control node". It is not

ascertainable what is being stored to the second storage devices. As such, said

limitation renders the claim indefinite and the claim fails to particularly point out and

distinctly claim the subject matter which applicant regards as the invention.

Claims 39-41 are rejected under 35 U.S.C. 112, second paragraph for their

dependency on the base claim 38.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art
> are such that the subject matter as a whole would have been obvious at the time the invention was made to
> a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

9.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

10.   Claims 35, 36, 37, 42, 43, 44, and 46 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Dettinger et al., (hereinafter "Dettinger", U.S. Patent

Application Publication Number 2003/0093413) in view of Hwang (hereinafter "Hwang",

U.S. Patent Application Publication Number 2003/0204562).

As per claim 35, Dettinger is directed to "an access control node" (Dettinger,

Figure 1 A: Server Computer; Figure 1A: *Access Manager 109*; Figure 1A, 114, 115_1,

115_2, 115_N; Dettinger, Paragraph 0021, i.e., *In general, the networked database*

environment 100 comprises a server (source) computer 102 in communication with a

plurality of client (target) computers 120_1, 120_2, . . . 120_N (collectively referred to as the

client computers 120) "coupled to a client computer and a storage device via a first

network" (Dettinger, Paragraph 0021, i.e., *In general, the networked database*

environment 100 comprises a server (source) computer 102 in communication with a

plurality of client (target) computers 120_1, 120_2, . . . 120_N (collectively referred to as the

client computers 120) ; Dettinger, Figure 1B: *Server 126_1, 126_2, and 126_N* and

Paragraph 0021, i.e., *a plurality of client computers; Figure 1B (A) 115_1 Client*

Computer, (B) 115_2 Client Computer, (C) 115_N Client Computer; Figure 1B: *Target*

Database 128_1, 128_2, and 128_N; Note that each of said plurality of client computers

comprises a server (126_1 , 126_2 and 126_N) and operates both as control nodes (i.e.,

resource management devices) and clients at the same time as in recited Paragraph

0021 of Dettinger as *Each of the client computers 120 includes a database*

management system 125_1.....125_N (collectively referred to as the database

management systems)) and teaches the limitations:

"a first interface coupled to the storage device" (Dettinger, Figure 1A: *Storage*

118; Dettinger Paragraph 0023, i.e., *Storage 118 is preferably a direct access storage*

device (DASD), although it is shown as a single unit, it could be a combination of fixed

and/or removable storage devices, such as fixed disc drives, floppy disc drives, tape

drives, removable memory cards, or optical storage);

"a second interface coupled to a client computer and another control node"

(Dettinger Paragraph 0021, i.e., *a plurality of client computers; Figure 1B (A) 115₁ Client*

Computer, (B) 115₂ Client Computer, (C) 115ₙ Client Computer;   Figure 1B: *Target*

Database 128₁, 128₂, and 128ₙ; Note that each of said plurality of client computers

comprises a server (126₁ , 126₂ and 126ₙ) and operates both as control nodes (i.e.,

resource management devices) and clients at the same time as in recited Paragraph

0021 of Dettinger as *Each of the client computers 120 includes a database*

management system 125₁…..125ₙ (collectively referred to as the database

management systems);

"a control processor configured to control, via the first interface, requests

from a user via a client computer or other control node related to data stored in the

storage device" (Dettinger, Paragraph 0021, i.e., *the networked database environment*

100 comprises a server (source) **computer** *102 in communication with a plurality of*

client (target) computers; Dettinger, Figure 1A: *Access Manager 109,* and Paragraph

0025, i.e. *To this end, various information (referred to herein as access manager*

metrics) is recorded by access manager 109 in a log 111; Dettinger Paragraph 0021,

i.e., *The receiving servers 126 are each configured to make requests against the*

respective target database 128 as well as a source database 106 of the server

computer 102);

"said control processor configured to specify a source of the requests as one

of the client computer or the other control node" (Dettinger, Paragraph 0021, i.e., *the*

networked database environment 100 comprises a server (source) **computer** *102 in*

communication with a plurality of client (target) computers; Dettinger, Paragraph 0027,

i.e., the *replication schedule may be automatically generated by the access manager*

109 **according to the rules 110 and the metrics contained in the log 11**);

"an access history configured to store entries of the requests with the

specified source" (Dettinger, Figure 1A: *Access Manager 109,* and Paragraph 0025, i.e.

To this end, various information (referred to herein as **access manager metrics**) *is*

recorded by access manager 109 in a log 111);

"an access history managing unit configured to extract stored entries of the

requests from the access history having the other control node as the specified

source" (Dettinger, Figure 1A: *Server 106*; Paragraph 0025, i.e., *the access manager*

metrics include when a database request was issued, when the request was processed,

the frequency of **request from particular client**, *etc.* ; Paragraph 0026, i.e., *Illustrative*

threshold criteria 112 which may be checked by the rules 110 include time of day used,

volume used, frequency of use, user class (e.g., managers, architects, users with read

only access etc.) and user class tolerance of data latency; and ; Paragraph 0027, i.e.,

i.e. *the replication schedule may be automatically generated by the access manager*

109 according to the rules 110 and the metrics contained in the log 111 ; Figure 1A:

Storage 118 and Paragraph 0023 i.e., *such as fixed drives*);

"one of the control process of the control node or a control processor of the

other control node" (Dettinger, Figure 1, wherein in clients are communicatively

coupled (Figure 1A 114, 115_1, 115_2, and 115_N) to the server 100; Dettinger, Paragraph

0021, i.e., *In general, the networked database environment 100 comprises a server*

(source) computer 102 in communication with a plurality of client (target) computers

120_1, 120_2, . . . 120_N (collectively referred to as the client computers 120) "configured

to send data related to the requests of the extracted log entries to the other control

node" (Dettinger Paragraph 0021, i.e., *comprising a receiving server 126_1, 126_2, . . .*

126_N (collectively referred to as the receiving servers 126; Note that that each of the

plurality of client computers comprises a server (Figure 1B: 126_1, 126_2 and 126_N) and

operates both as control nodes (i.e., resource management devices) and clients at the

same time as in recited Paragraph 0021 of Dettinger as *Each of the client computers*

120 includes a database management system 125_1.....125_N (collectively referred to as

the database management systems) "when the accessor of the first data is changed

to the other control node as the source of the request of the extracted stored entries

and" (Dettinger Paragraph 0025, i.e., *If, for a given client, the predefined replication*

thresholds are met, then one or more tables 107 of the source database 104 are

replicated to the client's local system. To this end, various information (referred to herein

as "access manager metrics") is recorded by the access manager 109 in a log 111.

Illustratively, the access manager metrics include **when a database request was**

issued, *when the request was processed,* **the frequency of requests from a**

particular client, *etc. The access manager 109 may then utilize these metrics to*

determine whether replication is appropriate. In any case, when data is to be sent to

one or more clients 120, the sending server 106 sends the data via the appropriate

dedicated Channel 115₁, 115₂, . . . 115ₙ established over the network connection 114

(e.g., a TCP/IP connection); Dettinger, Paragraph 0010, i.e., automatically replicating

source data from a source data to target databases) **"and the number of the extracted**

stored entries for the requests is a predetermined value (within a predetermined

time)" (Dettinger Paragraph 0026, i.e., *Illustrative threshold criteria 112 which may be*

checked by the rules 110 include time of day used, volume used, frequency of use, user

class (e.g., managers, architects, users with read only access etc.) and user class

tolerance of data latency).

Dettinger does not explicitly teach the limitations:

"within a predetermined time", "when the accessor of the first data is changed to

the other control node as the specified source (of the requests of extracted stored

entries)", and "the one control processor is further configured to send second data

accessed by the user before the accessor is changed to the other control node".

Limitation in the parenthesis, that is, "requests of the extracted stored entries", is taught

by Dettinger.

On the other hand, Hwang teaches the limitation:

"within a predetermined time" (Hwang, Paragraph 0072, i.e., the application

server seeks the answer to the following question: "Find the set of files that may be

subsequently accessed within the **next Θ units of time** with at least s% probability,

where Θ and s are user-specified thresholds") and

"when the accessor of the first data is changed to the other control node as

the specified source (of the requests of extracted stored entries)" and "the one

control processor is further configured to send second data accessed by the user

before the accessor is changed to the other control node" (Hwang, Paragraph 0029,

i.e., *The transparent working environment of the MAS TC/S system is mainly*

*accomplished by **prefetching** a portion, not necessarily all, of a user's data to an*

appropriate application server that is preferably nearest to the user; Hwang, Paragraph

0044, i.e., ***When the user travels to another location particularly outside the LAN***

to which the application server 2d is linked, the MAS TC/S system works in the following

ways; Hwang, Paragraph 0046, i.e., *In step 3c, the thin-client device is guided to*

*connect the appropriate application server. And in step 3d, **files are distributed to the***

appropriate application server to maintain a transparent working environment of

the thin-client device; Hwang, Paragraph 0051, i.e., *An efficient distributed file system*

is indeed very important in the MAS TC/S system and preferably it must possess a file

prefetching mechanism that predicts users' data demands. The distributed file system of

the present invention includes the functionality of traditional distributed file systems with

*enhanced mechanisms for **file prefetching**).*

At the time the invention was made, it would have been obvious to a person of

ordinary skill in the art to add the features of determining access frequency within a

predetermined period and prefetching user files to another before a user move to said

another computer, as taught by Hwang, to the access control node of Dettinger so that,

in the resultant access control node, access frequency would be measured within a

predetermined period and, when the accessor of the first data is changed to the other

control node as the specified source second data accessed by the user would be sent

before the accessor is changed to the other control node. One would have been

motivated to do so in order to "allow users to roam around a wide area network whilst

experiencing transparent working environment" (Hwang, Paragraph 0001).

As per claim 36, Dettinger in view of Hwang teaches the limitation:

"wherein the one control processor migrates the related data to the other

control node if there is no request for the first data from the client computer via the

Second interface" (Dettinger, Paragraph 0032, i.e., *If the replication threshold is not*

met, then processing proceeds to step 222 where no action is taken. If, however, the

replication threshold is met, processing proceeds to step 224 where a replication event

is logged in the log 111. At step 226, the data is replicated based on the access

manager rules 110).

As per claim 37, Dettinger in view of Hwang teaches the limitation:

"wherein the one control processor copies the first data to the other control

node if there is no request for the first data from the client computer via the second

interface"(Dettinger, Paragraph 0032, i.e., *If the replication threshold is not met, then*

processing proceeds to step 222 where no action is taken. If, however, the replication

threshold is met, processing proceeds to step 224 where a replication event is logged in

the log 111. At step 226, the data is replicated based on the access manager rules

110).

As per claim 42, Dettinger in view of Hwang is directed to a computer system and

teaches the limitations:

"a plurality of storage systems including a control device and a storage

device" (Dettinger, Paragraph 0021, i.e., *In general, the networked database*

environment 100 comprises a server (source) computer 102 in communication with a

plurality of client (target) computers 120_1, 120_2, . . . 120_N (collectively referred to as the

client computers 120) ; Dettinger, Figure 1B: *Server 126_1, 126_2, and 126_N* and

Paragraph 0021, i.e., *a plurality of client computers; Figure 1B (A) 115_1 Client*

Computer, (B) 115_2 Client Computer, (C) 115_N Client Computer; Figure 1B: *Target*

Database 128_1, 128_2, and 128_N; Note that each of said plurality of client computers

comprises a server (126_1 , 126_2 and 126_N) and operates both as control nodes (i.e.,

resource management devices) and clients at the same time as in recited Paragraph

0021 of Dettinger as *Each of the client computers 120 includes a database*

management system 125_1.....125_N (collectively referred to as the database

management systems); Dettinger, Figure 1A: *Storage 118*; Dettinger Paragraph 0023,

i.e., *Storage 118 is preferably a direct access storage device (DASD), although it is*

shown as a single unit, it could be a combination of fixed and/or removable storage

devices, such as fixed disc drives, floppy disc drives, tape drives, removable memory

cards, or optical storage; Also note that client computers of Dettinger comprise "target

databases" *128_1, 128_2, and 128_N.* As such, client computers of Dettinger comprises

storages devices to accommodate said target databases, in addition functioning both as

client computers and control nodes);

"a client computer used as an accessor by a user" (Dettinger, Paragraph 0021,

i.e., *In general, the networked database environment 100 comprises a server (source)*

computer 102 in communication with a plurality of client (target) computers 120_1, 120_2, .

. . 120_N (collectively referred to as the client computers 120)); and

"a management computer" (Dettinger, Paragraph 0021, i.e., *the networked*

database environment 100 comprises a server (source) computer 102 in

communication with a plurality of client (target) computers; Dettinger, Figure 1 A: **Server**

Computer; Figure 1A: *Access Manager 109*; Figure 1A, 114, 115_1, 115_2, 115_N;

Dettinger, Paragraph 0021, i.e., *In general, the networked database environment 100*

comprises a server (source) computer 102 in communication with a plurality of client

(target) computers 120_1, 120_2, . . . 120_N (collectively referred to as the client computers

120));

"wherein the control device" (Dettinger, Figure 1A: *Access Manager 109*) is

configured to:

"control a request from a client computer and other storage systems in which

the request is related to data stored in the storage device of respective storage

system or data stored in the other storage system" (Dettinger, Figure 1A: *Access*

Manager 109, and Paragraph 0025, i.e. *To this end, various information (referred to*

herein as access manager metrics) is recorded by access manager 109 in a log 111;

Dettinger Paragraph 0021, i.e., *The receiving servers 126 are each configured to make*

requests against the respective target database 128 as well as a source database 106

of the server computer 102);

"transmit the request to the other storage system if the request is related to

data stored in the other storage system" (Dettinger, Figure 1, wherein in clients are

communicatively coupled (Figure 1A 114, 115_1, 115_2, and 115_N) to the server 100;

Dettinger, Paragraph 0021, i.e., *In general, the networked database environment 100*

comprises a server (source) computer 102 in communication with a plurality of client

(target) computers 120_1, 120_2, . . . 120_N (collectively referred to as the client computers

120); Dettinger Paragraph 0021, i.e., *The receiving servers 126 are each configured to*

make requests against the respective target database *128 as well as a source*

database 106 of the server computer 102);

"access the data on the basis of the request if the request is related to data

stored in the storage device of the respective storage system" (Dettinger Paragraph

0021, i.e., *comprising a receiving server 126_1, 126_2, . . . 126_N (collectively referred to as*

the receiving servers 126; Note that that each of the plurality of client computers

comprises a server (Figure 1B: 126_1, 126_2 and 126_N) and operates both as control

nodes (i.e., resource management devices) and clients at the same time as in recited

Paragraph 0021 of Dettinger as *Each of the client computers 120 includes a database*

management system 125_1.....125_N (collectively referred to as the database

management systems; Dettinger Paragraph 0021, i.e., *The receiving servers 126 are*

each configured to make requests against the respective target database 128 as well as

a source database 106 of the server computer 102);

"store entries of the request with the source of the request being specified as either the client computer or the other storage system" (Dettinger, Figure 1A: *Access Manager 109*, and Paragraph 0025, i.e. *To this end, various information (referred to herein as access manager metrics) is recorded by access manager 109 in a log 111*); and

"extract the stored entries related to the request from the other storage system" (Dettinger, Figure 1A: *Server 106*; Paragraph 0025, i.e., *the access manager metrics include when a database request was issued, when the request was processed, the frequency of **request from particular client**, etc.* ; Paragraph 0026, i.e., *Illustrative threshold criteria 112 which may be checked by the rules 110 include time of day used, volume used, frequency of use, user class (e.g., managers, architects, users with read only access etc.) and user class tolerance of data latency; and* ; Paragraph 0027, i.e., i.e. *the replication schedule may be automatically generated by the access manager 109 according to the rules 110 and the metrics contained in the log 111* ; Figure 1A: *Storage 118* and Paragraph 0023 i.e., *such as fixed drives*));

"wherein the management computer sends first data related to the requests of the extracted entries to the other storage system" (Dettinger, Figure 1A: *Server 106*; Paragraph 0025, i.e., *the access manager metrics include when a database request was issued, when the request was processed, the frequency of **request from particular client**, etc.* ; Paragraph 0026, i.e., *Illustrative threshold criteria 112 which may be checked by the rules 110 include time of day used, volume used, frequency of use, user class (e.g., managers, architects, users with read only access etc.) and user*

class tolerance of data latency; and ; Paragraph 0027, i.e., *i.e. the replication schedule*

may be automatically generated by the access manager 109 according to the rules 110

and the metrics contained in the log 111 ; Figure 1A: *Storage 118* and Paragraph 0023

i.e., *such as fixed drives*)) **"when the accessor of the first data is changed from the**

client computer" (Hwang, Paragraph 0029, i.e., *The transparent working environment*

*of the MAS TC/S system is mainly accomplished by **prefetchin**g a portion, not*

necessarily all, of a user's data to an appropriate application server that is preferably

nearest to the user; Hwang, Paragraph 0044, i.e., ***When the user travels to another***

***location particularly outside the LAN** to which the application server 2d is linked, the*

MAS TC/S system works in the following ways; Hwang, Paragraph 0046, i.e., *In step 3c,*

the thin-client device is guided to connect the appropriate application server. And in step

*3d, **files are distributed to the appropriate application server to maintain a***

***transparent working environment of the thin-client device**;* Hwang, Paragraph

0051, i.e., *An efficient distributed file system is indeed very important in the MAS TC/S*

system and preferably it must possess a file prefetching mechanism that predicts users'

data demands. The distributed file system of the present invention includes the

*functionality of traditional distributed file systems with enhanced mechanisms for **file***

***prefetching**) and "when the other storage system is the specified source"* (Dettinger,

Figure 1A: *Server 106*; Paragraph 0025, i.e., *the access manager metrics include when*

a database request was issued, when the request was processed, the frequency of

***request from particular client**, etc.* ; Paragraph 0026, i.e., *Illustrative threshold criteria*

112 which may be checked by the rules 110 include time of day used, volume used,

frequency of use, user class (e.g., managers, architects, users with read only access

etc.) and user class tolerance of data latency; and ; Paragraph 0027, i.e., i.e. *the*

replication schedule may be automatically generated by the access manager 109

according to the rules 110 and the metrics contained in the log 111 ; Figure 1A: *Storage*

118 and Paragraph 0023 i.e., *such as fixed drives*) and **"when the number of the**

extracted entries for the requests is a predetermined value" (Dettinger Paragraph

0026, i.e., *Illustrative threshold criteria 112 which may be checked by the rules 110*

include time of day used, volume used, frequency of use, user class (e.g., managers,

architects, users with read only access etc.) and user class tolerance of data latency)

"within a predetermined time" (Hwang, Paragraph 0072, i.e., the application server

seeks the answer to the following question: "Find the set of files that may be

subsequently accessed within the **next Θ units of time** with at least s% probability,

where Θ and s are user-specified thresholds")

    "wherein the management computer sends second data accessed by the user

before the accessor is changed to the other storage system" (Hwang, Paragraph 0029,

i.e., *The transparent working environment of the MAS TC/S system is mainly*

*accomplished by **prefetching** a portion, not necessarily all, of a user's data to an*

appropriate application server that is preferably nearest to the user; Hwang, Paragraph

0044, i.e., ***When the user travels to another location particularly outside the LAN***

to which the application server 2d is linked, the MAS TC/S system works in the following

ways; Hwang, Paragraph 0046, i.e., *In step 3c, the thin-client device is guided to*

*connect the appropriate application server. And in step 3d, **files are distributed to the***

appropriate application server to maintain a transparent working environment of

the thin-client device; Hwang, Paragraph 0051, i.e., *An efficient distributed file system*

is indeed very important in the MAS TC/S system and preferably it must possess a file

prefetching mechanism that predicts users' data demands. The distributed file system of

the present invention includes the functionality of traditional distributed file systems with

*enhanced mechanisms for **file prefetching**).*

As per claim 43, Dettinger in view of Hwang teaches the limitation:

"wherein the control device migrates the related data to the other storage

system if there is no request for the related data from the client computer"

(Dettinger, Paragraph 0032, i.e., *If the replication threshold is not met, then processing*

proceeds to step 222 where no action is taken. If, however, the replication threshold is

met, processing proceeds to step 224 where a replication event is logged in the log 111.

At step 226, the data is replicated based on the access manager rules 110).

As per claim 44, Dettinger teaches the limitation:

"wherein the control device copies the related data to the other storage

system if there is no request for the related data from the client computer"

(Dettinger, Paragraph 0032, i.e., *If the replication threshold is not met, then processing*

proceeds to step 222 where no action is taken. If, however, the replication threshold is

met, processing proceeds to step 224 where a replication event is logged in the log 111.

At step 226, the data is replicated based on the access manager rules 110).

As per claim 46, Dettinger teaches the limitations:

"further comprising a management server" (Dettinger, Figure 1 A: **Server**

Computer; Figure 1A: *Access Manager 109*; Figure 1A, 114, 115_1, 115_2, 115_N) **"coupled**

to a plurality of the storage systems" (Dettinger, Figure 1A: ***Storage 118***; Dettinger

Paragraph 0023, i.e., *Storage 118 is preferably a direct access storage device (DASD),*

although it is shown as a single unit, it could be a combination of fixed and/or removable

storage devices, such as fixed disc drives, floppy disc drives, tape drives, removable

memory cards, or optical storage) **"which is configured to collect stored requests from**

a plurality of the storage systems" (Dettinger, Figure 1A: *Access Manager 109*, and

Paragraph 0025, i.e. *To this end, various information (referred to herein as access*

manager metrics) is recorded by access manager 109 in a log 111) **"to extract stored**

entries for the requests which are received from the other storage systems"

(Dettinger, Figure 1A: *Server 106*; Paragraph 0025, i.e., *the access manager metrics*

include when a database request was issued, when the request was processed, the

*frequency of **request from particular client**, etc.* ; Paragraph 0026, i.e., *Illustrative*

threshold criteria 112 which may be checked by the rules 110 include time of day used,

volume used, frequency of use, user class (e.g., managers, architects, users with read

only access etc.) and user class tolerance of data latency; and ; Paragraph 0027, i.e.,

i.e. *the replication schedule may be automatically generated by the access manager*

109 according to the rules 110 and the metrics contained in the log 111 ; Figure 1A:

Storage 118 and Paragraph 0023 i.e., *such as fixed drives)*) **and "to send an**

instruction to send, to the other storage system, data related to the request of the

extracted stored entries" (Dettinger, Figure 1A: *Server 106*; Paragraph 0025, i.e., *the*

access manager metrics include when a database request was issued, when the

request was processed, the frequency of **request from particular client,** *etc.* ;

Paragraph 0026, i.e., *Illustrative threshold criteria 112 which may be checked by the*

rules 110 include time of day used, volume used, frequency of use, user class (e.g.,

managers, architects, users with read only access etc.) and user class tolerance of data

latency; and ; Paragraph 0027, i.e., i.e. *the replication schedule may be automatically*

generated by the access manager 109 according to the rules 110 and the metrics

contained in the log 111 ; Figure 1A: *Storage 118* and Paragraph 0023 i.e., *such as*

fixed drives)) and "when the number of the extracted log entries for the requests is a

predetermined value" (Dettinger Paragraph 0026, i.e., *Illustrative threshold criteria 112*

which may be checked by the rules 110 include time of day used, volume used,

frequency of use, user class (e.g., managers, architects, users with read only access

etc.) and user class tolerance of data latency)).

11.   Claims 38, 39, and 40 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Dettinger in view of Hwang and further in view of Srinivasan et al.,

(hereinafter "Srinivasan", U.S. Patent Application Publication Number 2007/0226331).

As per claim 38, Dettinger in view of Hwang as applied above is directed to a

computer system and teaches the limitations:

"**a first network system including a first client computer as an accessor used**

by a first user, a first control node, and a first storage device" (Dettinger, Paragraph

0021, i.e., *In general, the networked database environment 100 comprises a server*

(source) computer 102 in communication with a plurality of client (target) computers

120_1, 120_2, . . . 120_N (collectively referred to as the client computers 120); Dettinger,

Figure 1 A: Server Computer; Figure 1A: *Access Manager 109*; Figure 1A, 114, 115_1,

115_2, 115_N; Note that both the server and client computers of Dettinger function as

"control nodes". Dettinger, Figure 1B: *Server 126_1, 126_2, and 126_N* and Paragraph

0021, i.e., *a plurality of client computers; Figure 1B (A) 115_1 Client Computer, (B) 115_2*

Client Computer, (C) 115_N Client Computer; Figure 1B: *Target Database 128_1, 128_2,*

and 128_N; Note that each of said plurality of client computers comprises a server (126_1,

126_2 and 126_N) and operates both as control nodes (i.e., resource management

devices) and clients at the same time as in recited Paragraph 0021 of Dettinger as *Each*

of the client computers 120 includes a database management system 125_1.....125_N

(collectively referred to as the database management systems); Dettinger, Figure 1A:

Storage 118; Dettinger Paragraph 0023, i.e., *Storage 118 is preferably a direct access*

storage device (DASD), although it is shown as a single unit, it could be a combination

of fixed and/or removable storage devices, such as fixed disc drives, floppy disc drives,

tape drives, removable memory cards, or optical storage; Also note that client

computers of Dettinger comprise "target databases" *128_1, 128_2, and 128_N.* As such,

client computers of Dettinger comprises storages devices to accommodate said target

databases, in addition functioning both as client computers and control nodes);

"**a plurality of second network systems including a second client computer, and a second control node, and a second storage device**" (Dettinger, Figure 1, wherein in clients are communicatively coupled (Figure 1A 114, 115_1, 115_2, and 115_N) to the server 100; Dettinger, Paragraph 0021, i.e., *In general, the networked database environment 100 comprises a server (source) computer 102 in communication with a plurality of client (target) computers 120_1, 120_2, . . . 120_N (collectively referred to as the client computers 120)*; Dettinger, Figure 1 A: Server Computer; Figure 1A: *Access Manager 109*; Figure 1A, 114, 115_1, 115_2, 115_N; Note that both the server and client computers of Dettinger function as "control nodes". Dettinger, Figure 1B: *Server 126_1, 126_2, and 126_N* and Paragraph 0021, i.e., *a plurality of client computers; Figure 1B (A) 115_1 Client Computer, (B) 115_2 Client Computer, (C) 115_N Client Computer*; Figure 1B: *Target Database 128_1, 128_2, and 128_N;* Note that each of said plurality of client computers comprises a server (126_1, 126_2 and 126_N) and operates both as control nodes (i.e., resource management devices) and clients at the same time as in recited Paragraph 0021 of Dettinger as *Each of the client computers 120 includes a database management system 125_1.....125_N (collectively referred to as the database management systems;* Also note that client computers of Dettinger comprise "target databases" *128_1, 128_2, and 128_N.* As such, client computers of Dettinger comprises storages devices to accommodate said target databases, in addition functioning both as client computers and control nodes);

"**wherein the first control node is coupled to the first storage device**" (Dettinger, Figure 1 A: Server Computer; Figure 1A: *Access Manager 109*; Figure 1A,

114, 115₁, 115₂, 115ₙ; Dettinger, Figure 1A: ***Storage 118***; Dettinger Paragraph 0023,

i.e., *Storage 118 is preferably a direct access storage device (DASD);* Note that "the

server" of Dettinger maps to the first control node of the instant application) and is

configured to:

"control a first request related to data stored in the first storage device from

either the first client computer or the second control node as a specified source of

the first request" (Dettinger, Figure 1A: *Access Manager 109,* and Paragraph 0025, i.e.

To this end, various information (referred to herein as access manager metrics) is

recorded by access manager 109 in a log 111; Dettinger Paragraph 0021, i.e., *The*

receiving servers 126 are each configured to make requests against the respective

target database 128 as well as a source database 106 of the server computer 102);

"store entries of the first request with the specified source of the first

request" (Dettinger, Figure 1A: *Access Manager 109,* and Paragraph 0025, i.e. *To this*

end, various information (referred to herein as access manager metrics) is recorded by

access manager 109 in a log 111);

"extract stored entries of the first requests from the second control node"

(Dettinger, Figure 1A: *Server 106*; Paragraph 0025, i.e., *the access manager metrics*

include when a database request was issued, when the request was processed, the

*frequency of **request from particular client***, *etc.* ; Paragraph 0026, i.e., *Illustrative*

threshold criteria 112 which may be checked by the rules 110 include time of day used,

volume used, frequency of use, user class (e.g., managers, architects, users with read

only access etc.) and user class tolerance of data latency; and ; Paragraph 0027, i.e.,

i.e. *the replication schedule may be automatically generated by the access manager*

109 according to the rules 110 and the metrics contained in the log 111 ; Figure 1A:

Storage 118 and Paragraph 0023 i.e., *such as fixed drives)*;

"send first data related to" (Dettinger, Figure 1, wherein in clients are

communicatively coupled (Figure 1A 114, 115_1, 115_2, and 115_N) to the server 100;

Dettinger, Paragraph 0021, i.e., *In general, the networked database environment 100*

comprises a server (source) computer 102 in communication with a plurality of client

(target) computers 120_1, 120_2, . . . 120_N (collectively referred to as the client computers

120) **"to the extracted stored entries of the first requests to the second control node"**

(Dettinger Paragraph 0021, i.e., *comprising a receiving server 126_1, 126_2, . . . 126_N*

(collectively referred to as the receiving servers 126; Note that that each of the plurality

of client computers comprises a server (Figure 1B: 126_1, 126_2 and 126_N) and operates

both as control nodes (i.e., resource management devices) and clients at the same time

as in recited Paragraph 0021 of Dettinger as *Each of the client computers 120 includes*

a database management system 125_1.....125_N (collectively referred to as the database

management systems) **"when the accessor of the first data is changed to the second**

control node" (Hwang, Paragraph 0029, i.e., *The transparent working environment of*

*the MAS TC/S system is mainly accomplished by **prefetching** a portion, not necessarily*

all, of a user's data to an appropriate application server that is preferably nearest to the

user; Hwang, Paragraph 0044, i.e., ***When the user travels to another location***

***particularly outside the LAN** to which the application server 2d is linked, the MAS*

TC/S system works in the following ways; Hwang, Paragraph 0046, i.e., *In step 3c, the*

thin-client device is guided to connect the appropriate application server. And in step 3d,

files are distributed to the appropriate application server to maintain a

transparent working environment of the thin-client device; Hwang, Paragraph

0051, i.e., *An efficient distributed file system is indeed very important in the MAS TC/S*

system and preferably it must possess a file prefetching mechanism that predicts users'

data demands. The distributed file system of the present invention includes the

*functionality of traditional distributed file systems with enhanced mechanisms for **file***

prefetching) and "**when the second control node is the specified source of the**

extracted stored entries of the first requests" (Dettinger Paragraph 00205, i.e., *If, for a*

given client, the predefined replication thresholds are met, then one or more tables 107

of the source database 104 are replicated to the client's local system. To this end,

*various information (referred to herein as "**access manager metrics**") is recorded by*

the access manager 109 in a log 111. Illustratively, the access manager metrics include

when a database request was issued, *when the request was processed*, **the**

frequency of requests from a particular client, *etc. The access manager 109 may*

then utilize these metrics to determine whether replication is appropriate. In any case,

when data is to be sent to one or more clients 120, the sending server 106 sends the

data via the appropriate dedicated Channel 115_1, 115_2, . . . 115_N established over the

network connection 114 (e.g., a TCP/IP connection); Dettinger, Paragraph 0010, i.e.,

automatically replicating source data from a source data to target databases) "**and the**

number of the extracted log entries for the requests is a predetermined value"

(Dettinger Paragraph 0026, i.e., *Illustrative threshold criteria 112 which may be checked*

by the rules 110 include time of day used, volume used, frequency of use, user class

(e.g., managers, architects, users with read only access etc.) and user class tolerance

of data latency) and "if the number of the extracted log entries of the first requests is a

predetermined value" (Dettinger Paragraph 0026, i.e., *Illustrative threshold criteria 112*

which may be checked by the rules 110 include time of day used, volume used,

frequency of use, user class (e.g., managers, architects, users with read only access

etc.) and user class tolerance of data latency) **"within a predetermined time"** (Hwang,

Paragraph 0072, i.e., the application server seeks the answer to the following question:

"Find the set of files that may be subsequently accessed within the **next Θ units of**

time with at least s% probability, where Θ and s are user-specified thresholds"); and

> **"send second data accessed by the user before the accessor is changed to the**

second control node" (Hwang, Paragraph 0029, i.e., *The transparent working*

*environment of the MAS TC/S system is mainly accomplished by **prefetching** a portion,*

not necessarily all, of a user's data to an appropriate application server that is preferably

nearest to the user; Hwang, Paragraph 0044, i.e., ***When the user travels to another***

***location particularly outside the LAN** to which the application server 2d is linked, the*

MAS TC/S system works in the following ways; Hwang, Paragraph 0046, i.e., *In step 3c,*

the thin-client device is guided to connect the appropriate application server. And in step

*3d, **files are distributed to the appropriate application server to maintain a***

***transparent working environment of the thin-client device**;* Hwang, Paragraph

0051, i.e., An efficient distributed file system is indeed very important in the MAS TC/S

system and preferably it must possess a file prefetching mechanism that predicts users'

data demands. The distributed file system of the present invention includes the

*functionality of traditional distributed file systems with enhanced mechanisms for **file***

***prefetching**);*

"the second control node is coupled to the second storage device" (One of the

client computers of Dettinger could be the second control node. Dettinger, Figure 1B:

Server 126$_1$, 126$_2$, and 126$_N$ and Paragraph 0021, i.e., *a plurality of client computers;*

Figure 1B (A) 115$_1$ Client Computer, (B) 115$_2$ Client Computer, (C) 115$_N$ Client

Computer;   Figure 1B: *Target Database 128$_1$, 128$_2$, and 128$_N$;* Note that each of said

plurality of client computers comprises a server (126$_1$, 126$_2$ and 126$_N$) and operates

both as control nodes (i.e., resource management devices) and clients at the same time

as in recited Paragraph 0021 of Dettinger as *Each of the client computers 120 includes*

a database management system 125$_1$.....125$_N$ (collectively referred to as the database

management systems; Also note that client computers of Dettinger comprise "target

databases" *128$_1$, 128$_2$, and 128$_N$.* As such, client computers of Dettinger comprises

storages devices to accommodate said target databases, in addition functioning both as

client computers and control nodes) and is configured to:

"receive a second request from the second client computer in the second

network system" (Dettinger Paragraph 0021, i.e., *The receiving servers 126 are each*

configured to make requests against the respective target database 128 as well as a

source database 106 of the server computer 102); and

"store to the second storage device if the data related to the second request is

received from the first control node" (Dettinger Paragraph 0021, i.e., *comprising a*

receiving server 126₁, 126₂, . . . 126ₙ (collectively referred to as the receiving servers

126).

Dettinger in view of Hwang does not explicitly teach the limitations: "determine if

the received second request is received from a data location in the second storage

device or the first storage device" and "send a request to the first control node, which

manages the first storage device, as a first request if the received second request is

related to the first storage device".

On the other hand, Srinivasan teaches the limitations:

"determine if the received second request is received from a data location in the

second storage device or the first storage device" and "send a request to the first control

node, which manages the first storage device, as a first request if the received second

request is related to the first storage device" (Srinivasan, Paragraph 0023, i.e., *The*

processor is configured to, determine that an incoming file system communication is

associated with a first portion of the distributed-file system associated with a second file

server of the plurality of servers, send a first authorization request to the second file

server to request authorization to directly access the first portion of the distributed-file

system, analyze a first authorization response from the second file server to determine

at least one storage location associated with the first portion of the distributed-file

system, determine that an incoming second authorization request received from a third

file server from the plurality of file servers by the interface is associated with a second

portion of the distributed-file system associated with the first file server, obtain data

indicative of the second portion of the distributed-file system, and send a second

authorization response that includes the data).

At the time the invention was made, it would have been obvious to a person of

ordinary skill in the art to modify the computer system of Dettinger in view of Hwang to

add the feature of determining incoming data requests so as to direct to pertinent data

sources, as taught by the system of Srinivasan, to the computer system of Dettinger in

view of Hwang so that the resultant system would also comprise the features of

"determining if the received second request is received from a data location in the

second storage device or the first storage device" and "sending a request to the first

control node, which manages the first storage device, as a first request if the received

second request is related to the first storage device". One would have been motivated to

do so in order to determine incoming requests for data and route said requests to

pertinent data sources (Srinivasan, paragraph 0023).

As per claim 39, Dettinger in view Hwang and further in view of Srinivasan

teaches the limitations:

"wherein the first control node migrates the data related to the extracted

stored entries of the first requests to the second control node if there is no request

related to the related data from the first client computer" (Dettinger, Paragraph

0032, i.e., *If the replication threshold is not met, then processing proceeds to step 222*

where no action is taken. If, however, the replication threshold is met, processing

proceeds to step 224 where a replication event is logged in the log 111. At step 226, the

data is replicated based on the access manager rules 110).

As per claim 40, Dettinger in view of Hwang and further in view of Srinivasan

teaches the limitations:

"wherein the first control node copies the data related to the extracted stored

entries of the first requests to the second control node if there is no request related

to the related data from the first client computer" (Dettinger, Paragraph 0032, i.e., *If*

the replication threshold is not met, then processing proceeds to step 222 where no

action is taken. If, however, the replication threshold is met, processing proceeds to

step 224 where a replication event is logged in the log 111. At step 226, the data is

replicated based on the access manager rules 110).

12.   Claims 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Dettinger in view of Hwang and further in view of Srinivasan and further in view of

Fletcher et al., (U.S. Patent Application Publication Number 2006/0282440).

As per claim 41, Dettinger in view of Hwang and further in view of Srinivasan

does not explicitly teach the limitations outside the parentheses: "wherein (the first

control node) **converts** a (source of the first request from the first client computer) to

(the Second control node when the received request is related to the second control

node)".

On the other hand, Fletcher teaches said limitation:

"wherein (the first control node) **converts** a (source of the first request from the first client computer) to (the Second control node when the received request is related to the second control node)" (Fletcher, Paragraph 0048, i.e., *When a request has been made to modify or change the metadata associated with a target file, the custom file system 145 redirects the file request to a corresponding copy of the file in a predetermined spill directory. The spill directory may be one of the parameters identified in the node configuration file. This same redirection process may be followed if the state of the file is "spilled." If the state of the file is "normal", the file request may be redirected to the corresponding original file through the matching real file system. In this example, the state of the file affects the location that the custom file system uses to redirect the file request*).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the system of Dettinger in view of Hwang and further in view of Srinivasan to add the feature of converting file identifications to direct a request for a file to a corresponding file, as taught by Fletcher, to the system of Dettinger in view of Hwang and further in view of Srinivasan so that the resultant system would convert a source of the first request from the first client computer to the Second control node when the received request is related to the second control node. One would have been motivated to do so in order to access multiple versions of files (Fletcher, Paragraph 0010).

13.   Claims 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Dettinger in view of Hwang and further in view of Fletcher.

As per claim 45, Dettinger in view of Hwang does not explicitly teach the

limitations outside the parentheses: "wherein (the first control node) **converts** a (source

of the first request from the first client computer) to (the Second control node when the

received request is related to the second control node)".

On the other hand, Fletcher teaches said limitation:

"wherein (the first control node) **converts** a (source of the first request from the

first client computer) to (the Second control node when the received request is related

to the second control node)" (Fletcher, Paragraph 0048, i.e., *When a request has been*

made to modify or change the metadata associated with a target file, the custom file

system 145 redirects the file request to a corresponding copy of the file in a

predetermined spill directory. The spill directory may be one of the parameters identified

in the node configuration file. This same redirection process may be followed if the state

of the file is "spilled." If the state of the file is "normal", the file request may be redirected

to the corresponding original file through the matching real file system. In this example,

the state of the file affects the location that the custom file system uses to redirect the

file request).

At the time the invention was made, it would have been obvious to a person of

ordinary skill in the art to modify the system of Dettinger in view of Hwang to add the

feature of converting file identifications to direct a request for a file to a corresponding

file, as taught by Fletcher, to the system of Dettinger in view of Hwang so that the

resultant system would convert a source of the first request from the first client

computer to the Second control node when the received request is related to the

second control node. One would have been motivated to do so in order to access

multiple versions of files (Fletcher, Paragraph 0010).

Response to Arguments

14.   Applicant's arguments filed on July 7, 2008, have been considered but are moot

in view of the new ground(s) of rejection.

Conclusion

15.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Contact Information

16.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Myint whose telephone number is (571) 272-5629. The examiner can normally be reached on 8:30 AM - 5:30 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on (571) 272-4023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-5629.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/dennis myint/

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